We Claim:

1. A process for motion-compensated prediction of moving images or pictures using an interpolation method, said process comprising the steps of:

a) considering past image points as well as neighboring image points in the interpolation method;

b) making a motion-compensated picture signal ($\hat{s}_{tri}$ (t-1)) using past image point information (s_{tri} (t-2)), wherein said past image point information is input according to a previously determined motion vector thereof; and

c) inserting said past image point information of the motion-compensated picture signal ($\hat{s}_{tri}$ (t-1)) in an interpolation raster between image points of a reference picture (s'(t-1)).

2. The process as defined in claim 1, further comprising producing an intermediate picture (s_e(t-1)) from said reference picture (s'(t-1)) by increasing scanning rate, wherein intervening image points between said image points of the reference picture (s'(t-1)) form said interpolation raster, filling said intervening image points by marker values (m) and replacing said marker values (m) at locations where said past image point information for the motion-compensated picture signal ($\hat{s}_{tri}$ (t-1)) is present.

3. The process as defined in claim 2, wherein said marker values (m) that are not replaced by said past image point information of the motion-compensated picture signal ($\hat{s}_{tri}$ (t-1)) are replaced by locally interpolated image points.

4. A device for motion-compensated prediction of moving images or pictures using an interpolation method, said device comprising means (1) for increasing a scanning rate of a reference picture, means (4) for a recursive motion compensation of the reference picture with an image memory (2) for past image point information; a merging module (3) for including motion-compensated image point information in an interpolation raster between image points of the reference picture.

5. The device as defined in claim 4, further comprising an interpolation stage (5) for local interpolation of intervening image points of an interpolation raster not already occupied in said merging module (3).

6. The device as defined in claim 4 or 5, wherein said means (4) for a recursive motion compensation of the reference picture includes a picture memory (6) and means for preparing a count index for each newly entered one of said image points in said picture memory (6), and, when one of said image points has a value of said count index corresponding to a predetermined dwell time limit, said one of said image points is removed from said picture memory (6).

7. The device as defined in claim 4, containing a time-recursive interpolation filter.